REMARKS

Claims 1-32, 34-37, and 39-60 are currently pending in this application. The final Office Action mailed June 4, 2004 rejected claims 1-32, 34-37, and 39-60. No claims have been amended, canceled, or added. For the reasons discussed in detail below, Applicants submits that the pending claims are patentable over the art of record and respectfully request that the Examiner pass this application to issue.

Rejection of Claims Under 35 U.S.C. § 103

The Office Action rejected claims 1-7, 16-22, 30-32, 37, 39, 50-51, 54-55, and 59-60 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,774,660 to Brendel et al. (hereinafter "Brendel") in view of U.S. Patent No. 6,173,322 to Hu (hereinafter "Hu"), and further in view of U.S. Patent No. 6,574,229 to Takahashi et al. (hereinafter "Takahashi"). Applicant respectfully traverses this rejection.

The Applicants respectfully submit that the prior art references, even if they could be properly combined not only do not teach or suggest all of the claim limitations, but actually teach away from the claimed invention. For example, as recited in Claim 1, the claimed invention teaches a method for balancing a load on a plurality of virtual servers that provide accesses to resources by, among other things, receiving a request for access to resources associated with a domain name from a domain name system (DNS), and providing a selected Internet Protocol (IP) address in a response to the DNS. Claim 1 further recites selecting the IP address associated with the plurality of virtual servers, the selection being based on a determination for optimally balancing the load.

The Office Action concedes that Brendel in view of Hu does not teach selecting an IP address associated with a plurality of virtual servers and receiving a request from a DNS and providing the selected IP address in response to the DNS. The Office Action, however, attempts to argue that Takahashi does teach these limitations. Applicants respectfully disagree.

In the Background of the Invention, Takahashi describes two distinct load distribution methods for performing service allocation. The first load distribution method described by Takahashi utilizes a DNS. However, Takahashi explains that this approach has problems. In particular, Takahashi notes that if a response of only one IP address among them (servers) is made, this is cached in the DNS associated with the client. This allows the accesses to be concentrated to one server cached in the DNS, preventing load distribution. (Emphasis added). Thus, Takahashi teaches away from the use of a DNS for load distribution. Moreover, Takahashi describes the second method utilizing the virtual server to include a load distribution apparatus that may possibly become a bottleneck, preventing an appropriate load distribution, and imposing a restriction on the servers to be subjected to the load distribution. (Emphasis added). Thus, Takahashi further teaches away from a method that employs a virtual server. See Takahashi, Col 1, line 66 - Col 2, line 20.

It is well known that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied,* 469 U.S. 851 (1984); MPEP 2141.02. It is a significant factor to be considered in determining obviousness when a cited reference "teaches away" from the invention. MPEP 2145.X.D. In the present case, Takahashi clearly indicates that both the DNS method and the virtual server method impose restrictions that make them unsatisfactory for load distribution. Moreover, Takahashi does not even disclose or suggest that such unsatisfactory methods may be combined. No motivation to combine such references is provided. Indeed, such combinations would likely result in a modification that may render the prior references unsatisfactory for their intended purposes, or at least change the principle operation of the prior references. Such unacceptable modifications are also significant factors in determining obviousness. Thus, Takahashi is an inappropriate reference and should be withdrawn. For at least these reasons, Applicants respectfully submit that the combination of Brendel, Hu, and Takahashi does not render the claimed invention obvious.

Furthermore, as made clear in the specification, the claimed invention does not directly communicate with the client. Instead, the claimed invention operates as an extension (EDNS) to a DNS which handles the actual communication with a client. (Page 4, line 30 through Page 5, line

17). In contrast, both Hu and Brendel teach communicating with a client for enabling a connection to a requested resource. Nowhere in the teachings of the cited prior art references do they disclose operating as an extension to a DNS where communications with a client are a separate process that is handled by the DNS. It is important to understand that the claimed invention teaches responding to a DNS request (not the actual client's request) by providing an IP address for a domain name that is associated with a resource and a plurality of virtual servers to the DNS. In contrast, both Hu and Brendel teach communicating with a client and enabling the establishment of a direct connection between the client and a content server that provides the actual access to the resource.

Furthermore, Hu discloses a restriction that "each content server within a group be capable of servicing all client requests sent to that group." See Hu, Col 2, lines 40-43, Col 7, lines 15-19. However, in the claimed invention, load balancing determinations are based on performance parameters. Therefore, no such restriction exists in the claimed invention. Interpreting any of the cited references as disclosing a determination of the load by an out-of-band process and resolving the IP address based on the optimal load balance determination, would be changing the principle of operation of each of the references, or combination thereof. Moreover, for at least the reasons stated above, the suggested combination of Brendel and Hu does not render the claimed invention obvious. Additionally, independent claims 37, 40, 50, 55, 59, and 60, are non-obvious in view of the cited references, and should be allowed to issue.

Regarding claim 4, Applicants respectfully submit that Brendel does not disclose or suggest when the primary DNS determines the domain name is delegated to an **extended** DNS (EDNS), enabling the primary DNS to refer the local DNS to the EDNS to resolve the ip address. Nor does Brendel teach or suggest employing the referred EDNS to use at least one of a plurality of load balancing determinations to select one of the plurality of load balancing determinations to select one of the plurality of servers and resolve the ip address. The specification teaches that the claimed extended DNS systems (Primary and Secondary EDNSs) are substantially different from a local or primary DNS system, such as briefly mentioned in Brendel. In fact, the specification provides separate definitions to make the distinction clear between the different functions performed by DNS and EDNS systems. See specifications, page 4, line 27 through page 5, line 31. In fact,

Brendel does not even suggest using an EDNS as described in the claimed invention. Thus, claim 4 is not made obvious in view of Brendel for at least the reasons stated above.

Additionally, claims 2-32, 34-36, 39, and 41-49 depend from amended independent Claims 1, 37, and 40, respectively. Claims 51-54 and 56-58 depend from independent Claims 50 and 55, respectively. Therefore, dependent Claims 2-32, 34-36, 39, and 41-49, 51-54, and 56-58 are also allowable over the cited references for at least the same reasons discussed above.

CONCLUSION

By the foregoing explanations, Applicants believe that this response has addressed fully all of the concerns expressed in the Final Office Action dated June 4, 2004, and believe that it has placed each of the pending claims in condition for immediate allowance. Entry of the amendments and early favorable action in the form of a Notice of Allowance is urged. Should any further aspects of the application remain unresolved, the Examiner is invited to telephone Applicants' attorney at the number listed below.

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Respectfully submitted,

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